

Research on Music Teaching Model in Colleges under the Background of Digitalization

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ARTICLE INFO	ABSTRACT
	The report from the 20th National Congress of the Communist Party of China (CPC)
	suggests advancing the digitization of education and establishing a society and
	nation that prioritizes lifelong learning for all individuals. Higher education serves
	as a crucial platform for nurturing innovative and high-quality talent, playing a vital
	role in modernizing education. With the rise of digital technology, music teaching
	methods in colleges are encountering both new opportunities and challenges.
	Currently, the teaching mode in college music programs, which serves as a
	fundamental framework for organizing and coordinating teaching activities, is
	undergoing significant transformation in the digital era. This paper focuses on
	investigating the music teaching methods in colleges, utilizing a literature research
	approach to explore the practical and theoretical significance of studying these
	teaching methods. The author believes that the strategic application of digital
	technology is necessary to foster the innovative development of music teaching
	models in colleges.

Keywords: Digitization, Music Teaching Model, Colleges

1. Introduction

The rapid development of digital technology in the digital era is bringing about significant changes in various fields, including higher education. In the context of digitalization, colleges and universities are facing both challenges and opportunities in their music teaching methods. The traditional mode of music teaching is undergoing an unprecedented period of reform. The integration of digital technology and music education is becoming a new trend. As a result, research on the application of digital technology in college music teaching has become a hot topic in music education. Digital music education offers several advantages over traditional music education. It allows students to learn anytime and anywhere, breaking the constraints of time and space. It also promotes active student participation, increasing their interest and enthusiasm for learning. Additionally, digital music education provides a vast amount of teaching resources, catering to the diverse needs of students.

1.1 Background of the study

According to Qintai Hu and Xiaomei Zhang (2018), China's education informatization has officially entered the 2.0 stage, marking the beginning of a new era in education at the age of intelligence. The 20th Party Congress report proposed the promotion of education digitization and the establishment of a learning society and country focused on lifelong learning. In February 2023, the Overall Layout Plan for the Construction of Digital China (2023) emphasized the implementation of a national education digitization strategy as part of the Digital China Construction Plan. Higher education is crucial for cultivating innovative and high-quality talents and plays a vital role in education modernization. To navigate the challenges of higher education digital transformation and establish a new transformation pattern, it is essential to understand the evolution of higher education digitization.

With the swift progress of digital technology and the emergence of the digital era, the realm of higher education is also confronting significant transformations and obstacles. In this context of digitalization, the conventional approach to music education in colleges is encountering fresh prospects and challenges. Digital technology offers a plethora of educational resources and instructional tools for music education in higher institutions, concurrently influencing the music education approach employed in these institutions. Consequently, it holds

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immense practical significance and academic worth to explore the music education approach in colleges amidst the backdrop of digitalization.

1.1.1 Reality Basis

In the realm of digitalization, the field of music education is undergoing constant innovation and advancement. Colleges and universities are progressively transforming their music teaching methods through the use of digital technology. This phenomenon necessitates a thorough investigation. The real basis of this transformation encompasses the following aspects:

- (1) The widespread adoption and utilization of digital technology With the rapid development of digital technology and its increasing popularity, the exploration and development of digital music teaching methods in colleges have become a prominent topic in the field of music education.
- (2) Limitations of traditional teaching methods Traditional music teaching methods in colleges primarily revolve around classroom-based instruction, which often fails to fully harness the potential of digital technology. Such methods are not compatible with the student-centered teaching approaches of the modern era, and they also have certain limitations.

(3) The current state of research both domestically and internationally

There has been numerous studies conducted both domestically and internationally that focus on the innovation and application of music teaching methods in colleges within the context of digitalization.

(4) Practical needs

In practical music teaching, there is an urgent need for the innovation of music teaching methods in colleges within the context of digitalization.

1.1.2 Theoretical foundation

Research on music teaching methods in colleges within the context of digitalization requires a solid theoretical foundation to guide and support it. When discussing the research background of this paper, the following relevant theoretical bases can be referenced:

(1) Social learning theory

Social learning theory suggests that learning occurs through observing and imitating the behaviors, thoughts, and emotional experiences of others. In the digital context, social learning in music education can be facilitated through the use of the Internet and social media.

(2) Multiple Intelligences Theory

The theory of multiple intelligence posits that humans possess various forms of intelligence, each of which can be cultivated and utilized to different extents. In the context of digitalization, the music teaching approach in colleges should prioritize the development of students' multiple intelligence.

(3) Lifelong Education Theory

Lifelong education theory advocates for a continuous process of learning and education throughout an individual's lifetime. This theory recognizes the need for individuals to continuously learn and adapt to new work and life environments as society evolves. In the context of digitalization, lifelong education theory is particularly relevant to the discussion of music teaching approaches in higher education institutions, as it highlights the long-term and sustainable nature of music education.

1.2 Research Motivation

Under the context of digitalization, the presence of opportunities and challenges in the music teaching methods in colleges is widespread. The ongoing progress and utilization of digital technology greatly impacts the music teaching methods in colleges. Currently, traditional music teaching methods are confronted with new demands and challenges in the digital age, and thus, necessitate continuous reform and innovation to sustain development. As a result, the music teaching methods in colleges under the context of digitalization are driven by the following research motivations:

1.2.1 Academic Value

The current focus in the education field is on the music teaching methods employed in colleges, particularly in light of digitalization. This topic holds significant academic value as it expands and enriches the research field of higher music education. By exploring the impact of digital technology on music teaching in colleges, we can further delve into innovative educational concepts and teaching methods that will drive continuous growth in music education within these institutions.

1.2.2 Practical needs

The extensive utilization of digital technology has had a significant impact on both personal and professional aspects of people's lives. As a crucial component of education, the methods employed in music instruction at colleges and universities must also align with the prevailing digital trends. It is imperative to accommodate the learning preferences of students and meet the demands of a technologically advanced society for skilled musicians. Hence, exploring the music teaching methods in higher education institutions within the context of digitalization can offer substantial theoretical and practical support for music education.

1.2.3 Social value

The incorporation of digitalization in music education at colleges and universities has a significant impact on modernization and internationalization. The use of digital technology in music teaching promotes collaboration between Chinese and foreign educational institutions, enhancing the influence and competitiveness of higher music education both domestically and internationally.

2.Research purpose

The objective of this paper is to investigate the potential of digital technology in enhancing the quality and impact of music education. This will be accomplished by examining the current music teaching methods used in colleges within the context of digitization. The paper will also offer insights and reflections on the future development of music teaching methods in higher education institutions.

3. Research Methods

This paper primarily utilizes the literature research method to investigate the college music teaching model under the digitization background. The research design involves the following steps: 1. Determining the research purpose. 2. Conducting a literature review to examine the research status, theoretical foundation, definition of important concepts, practical significance, and theoretical significance of the college music teaching model under digitization. This review helps clarify the research background, motivation, and purpose of the study.

4. Research synthesis

Digital technology is advancing at a rapid pace and has had a significant influence on music education. With the rise of digitalization, music education is also evolving in a more diverse and personalized direction. In this chapter, we will examine existing literature and explore the current state of research on music education methods in colleges within the context of digitalization.

4.1 Research on the relationship between digital technology and teaching mode

The author performed a search using the keywords "digital technology" and "teaching mode" in Wanfang Knowledge Data Platform and Knowledge.com. A total of 478 pieces of literature from 2023 was found. By expanding the search in Wanfang, over 10,000 documents were retrieved from 2003 to 2022, including more than 2,000 master's degree theses and over 100 doctoral dissertations. To ensure the accuracy of the study, articles with inaccurate semantic expressions were screened and adjusted accordingly.

According to Lin Yao's research in 2021, the report of the 20th CPC National Congress introduced the concept of the "trinity" of education, science and technology, and talents as a whole. This report included the objective of "promoting the digitalization of education," which gives education a new mission and task in the overall development of a modern socialist country. It also clarifies the role of education in the comprehensive construction of a modernized socialist country. The inclusion of "promoting education digitalization" in the report is significant as it sets the action plan for the future development of digital education. Currently, there are several issues in elementary school music and singing teaching, such as the lack of innovation in teaching methods and unattractive teaching content. In the context of digital education, teachers should utilize digital resources and incorporate innovative teaching designs to address these challenges.

In Xiaoguang Cheng's study conducted in 2018, a questionnaire survey was used to examine the usage of new media among college students in five different colleges and universities in Harbin. The study aimed at understand the various aspects of new media's impact on college students' learning and life. These aspects include the convenience brought by new media, the negative effects of new media, and the integration of new media with ideological and political education in colleges. The study also analyzed the reasons why college students accept and embrace new media. In the new media era, there are significant challenges in the ideological and political education of college students. These challenges include a lack of updated theoretical research, limited practical abilities among educators, insufficient information literacy among students, imbalanced cognitive perspectives, ineffective educational methods, isolated communication platforms, outdated educational concepts, rigid communication mechanisms, and other significant issues. The primary cause of this situation is the conflict between traditional ideological and political education of new media, the contradiction between traditional information output

methods and new media information output methods, the discrepancy between the singular nature of traditional information and the diversity of new media information, and the conflict between the systematic nature of traditional communication and the fragmented nature of new media communication. In terms of researching moral education theory, traditional education, and the increasing demands of the current era, our educational methods and approaches, including implicit education, classroom education, practical education, and psychological counseling, has yielded valuable insights. These insights include the necessity to strengthen ideology guided by Marxism-Leninism, the importance of studying moral education theory, the need to enhance information literacy education in colleges in the new media age, harnessing the advantages of implicit education, and maximizing the comprehensive benefits of educational resources.

In her study, Airong Chang (2003) presents two distinct teaching models for e-Learning in high school mathematics research learning. The first model is called "Resource Utilization - Topic Exploration - Cooperative Learning," while the second model is referred to as "Contextualization - Inquiry." Chang analyzes the current application of e-Learning in high school mathematics research learning, providing examples to discuss the advantages, problems, and suggestions for improvement.

In their study, Webster (2013) focused on how computer technology can be used in the teaching and learning of music. They also explored the difficulties that arise when using digital tools in music education.

Hickey (2012) took a different approach by incorporating assessment into music education. They investigated how to integrate curriculum, theory, and practice in music teaching.

In the realm of secondary music education, Abril and Gault (2012) examined the current state of music education from the perspective of principals. They discovered that a lack of resources in schools and a lack of student interest was challenges to music instruction.

Collins, Joseph, and Bielaczyc (2004) conducted a study on design research in music education.

They emphasized the importance of integrating theory and practice to improve music education.

Hickey (2003) focused on the need for teaching music composition and discussed various methods that can be used in this process.

The following literature summaries are provided:

Webster's (2013) study, the focus is on the utilization of computer technology in music education. The author provides practical tools and strategies for teachers to enhance the integration of computer technology in their music teaching methods.

Hickey (2012) addresses both theoretical and practical aspects of assessment in music education. The book explores how curriculum, theory, and practice can be harmoniously combined to elevate the overall quality of music education.

Abril and Gault (2012) surveyed to analyze the current state of music education from the perspective of principals. The findings indicate that many schools are encountering challenges due to insufficient resources for music education.

Collins et al. (2004) delve into theoretical and methodological considerations when designing research studies. The authors introduce a new research approach called design research, which emphasizes collaboration between researchers and practitioners.

Hickey's (2003) work, the focus is on the importance of teaching music composition and the recommended methods for doing so. Hickey argues that through composition, students can enhance their understanding of music theory and practice, and it also nurtures their creativity and expressive abilities. The integration of digital technology with composition can further amplify the effectiveness of the learning process.

The article by Kafai (1995) delves into the exploration of computer game design as a means for children to learn. It examines various game design projects and their potential contributions to children's learning and creative development.

Papert's (1980) work, he introduces a computer-based educational approach known as "brainstorming". This approach aims at assist students in acquiring problem-solving skills through computer programming and fostering their creativity and critical thinking capabilities.

Lastly, both Kafai (1995) and Papert (1980) conducted studies on the impact of computer games and programming on children's learning. These studies provide digital tools and innovative techniques for music education that aid in the enhancement of students' imaginations.

4.2 Research on Teaching Models and Their Educational Value

The researcher performed a search on Wanfang Knowledge Data Platform and Knowledge Network using the keywords "teaching mode" and "value". A total of 1,866 documents were found in 2023. To broaden the search, an additional search was conducted on Wanfang, resulting in over 50,000 literature pieces retrieved from 2016 to 2022, including over 9,000 master's theses and 88 doctoral theses. To ensure the accuracy of the study, articles with inaccurate semantic expressions were screened and adjusted accordingly.

According to Xiaokang Hou's research (2021), it was found that the implementation of a collaborative learning model in smart classrooms significantly enhanced students' ability to collaborate in information technology courses. Additionally, the overall academic performance of students showed significant improvement in the collaborative learning model based on smart classrooms.

In Junqiang Ma (2010), highlighted the concept of a smart campus, which was introduced in the "Twelfth Five-Year Plan" for information technology. This concept involves constructing a "digital campus" as a foundation and utilizing new information technologies such as the internet of things, cloud computing, and big data. The goal is to enhance interaction between school administrators, teachers, students, parents, and campus resources. Additionally, the integration of teaching activities, research projects, and system management with campus resources and application systems aims at improve the clarity, flexibility, and responsiveness of information applications. The implementation of the "flipped classroom" teaching mode in a smart campus has led to improvements in students' independent learning ability and collaborative learning skills.

In Wang Qin's (2016) study, they explored the development and implementation of an astronomy teaching approach using the World Wide Telescope. This approach takes advantage of information technology in astronomy education and is guided by advanced educational concepts and the use of scientific data. By incorporating modern learning theory and utilizing a teaching model, they have created a theoretical and practical framework for astronomy teaching. The study discusses the content of the teaching model, and the process of constructing it, and proposes three specific teaching models that can be widely used in astronomy education. This research is significant for the field of astronomy education and represents an innovative approach to educational technology research.

4.3 Research on Music Teaching Model in colleges in the Context of Digitization

The author searched Wanfang Knowledge Data Platform and ZhiNET using the terms "music teaching model in colleges" and "under the background of digitization". A total of 205 documents were found, including 165 journal articles, 36 dissertations, 2 conferences, and 2 scientific and technological achievements. However, when searching for specific keywords like "under the background of digitization", "music", "music in colleges", and "teaching mode" in the Knowledge Network, no relevant literature was found. By expanding the search scope in Wanfang, an additional 38 documents were retrieved, including 29 journal articles and 10 dissertations (1 doctoral and 9 master's degree). To ensure accuracy and relevance, the articles related to the keywords were carefully screened and adjusted in this study.

In the study conducted by Hongwei Yu (2023), the author explores three different approaches to teaching sight-singing and ear training with the integration of "Internet +". These approaches include using multimedia methods for traditional teaching, incorporating online and offline modes for sightsinging and ear-training, and adapting teaching methods to the network environment. The article emphasizes the importance of digital information technology in creating diverse teaching methods, particularly in the field of sight-singing and ear training.

In another study by Xuesong Zhou (2023), the author highlights the significance of digital technology and scientific applications in the field of music education. The use of new media in music education is seen as a crucial aspect of teaching reform to nurture high-quality music talents. This is especially relevant in the current era of new media advancements.

In Rui Chen's research (2022), it is highlighted that educational reform has driven the integration of new technologies and equipment into education, specifically in the field of live teaching. This has become a major focus of research across various disciplines. As a result, numerous manufacturers with expertise in "Internet +" have developed a wide range of tools suitable for music teaching. These tools are gradually playing a significant role in piano improvisation teaching. They include the creation of piano music teaching courses, the construction of 3D-based online teaching stages for piano, and the automatic identification of out-of-tune playing. The development of these tools has injected new energy into the modern piano performance industry. Furthermore, students are gradually embracing this type of piano improvisation teaching through the use of "Internet +" new media, aligning with the increasing demand for such teaching methods.

As mentioned by Lili Ma (2021), "Internet +" is an innovative educational model that emerged during the era of information-driven educational reform. This model has the potential to incorporate various educational resources and activities, to enhance the quality of education using digital teaching methods. In the modern era, high school education is evolving towards a more diverse approach, deviating from traditional methods. This evolution aims at leverage the strengths of high school education in nurturing talents while also upgrading the overall teaching system. Therefore, it is essential to integrate accordion teaching activities into the "Internet +" model, thus injecting momentum into the reform of higher education teaching.

In their study, Dong Min (2020) pointed out that the rapid development of the information age has provided a wealth of teaching resources for high school music education, injecting vitality and energy into the field. However, they also found that the traditional high school music classroom teaching mode has certain rigid and outdated aspects, which can hinder students' natural development and impede the formation of their musical literacy. In light of this, high school music teachers need to recognize the advantages of the information age and enhance their teaching methods and strategies. This article aims at analyze the positive impact of digital campuses on high school music education and discuss strategies to optimize music education in the information age, taking into account the background of the informatization era and digital campus construction.

According to Zhongjie Ge (2020), there has been a gradual transformation in the field of education towards digitalization and informatization, especially in teaching courses. This shift has brought about significant convenience in the teaching process. However, in the context of traditional teaching methods, the lack of

structured course schedules and teaching resources has resulted in unsatisfactory outcomes in the teaching of sight-singing and ear training in college music programs.

In Jingjing Zhang's study (2020), it is emphasized that general music education plays a critical role in nurturing talented individuals in higher education by enhancing their artistic qualities. However, in the digital technology era dominated by the Internet and computers, there is an urgent need for digital teaching reform in general music courses. This reform aims at cultivate innovative talents and explore teaching methods that are based on digital technology. Such a unique teaching approach serves as the foundation for the advancement of digital teaching practices.

Similarly, Huang Shuo's research (2020), it is highlighted that various digital technologies have emerged in the digital era, which has greatly influenced and transformed the contemporary education industry. In this context, the flipped classroom, a novel teaching approach that integrates digital technology and education, has emerged. This teaching mode challenges traditional educational concepts and brings about a series of reforms and innovations in teaching techniques. It provides a fresh perspective on contemporary education and teaching methods.

According to Huali Huangfu (2019), there has been a growing recognition of the significant role of digital technology in modern education. This has had a profound impact on the conventional methods of teaching, especially in the field of music. The emergence of computer music has led to a transformative change, enhancing vocal music teaching, creation, production, and instrumental performance. As a result, college vocal music instructors are now confronted with a pivotal challenge - how to effectively incorporate digital technology to enhance the efficacy of vocal music teaching and drive the reform of the teaching approach.

In Yanping Liu's study (2019), the significance of the new media threshold value in the digital communication era on the Internet is highlighted. This threshold value has a profound impact on the reform of music teaching in colleges. The study systematically examines the changes in music teaching brought about by technology in the modern music education theory system. In the context of the new media era, it is important to discuss how technological innovations can be applied more effectively and flexibly in the classroom to enhance the effectiveness of music teaching.

In the study conducted by Zhenhuan Song (2018), it is highlighted that advancements in technology have led to changes in the traditional approach to music education. With the emergence of the Internet, digital music teaching has become more prominent. This new mode of teaching has not only expanded students' knowledge and understanding of music but has also increased their interest and motivation to learn. As a result, students develop a deeper love for music, enhance their overall literacy, and create their diverse music world.

Additionally, Xue Rui (2018) states that the widespread use of smart devices has created favorable conditions for the distribution of online resources. This has allowed educational materials to be digitized, connected through networks, and presented in multimedia formats. As a result, microclasses have emerged as a product of this digital revolution in education.

According to Sichen Liu's research in 2017, microcourses are a type of internet platform that facilitates communication between teachers and students. It provides various learning materials and addresses the challenges faced by teachers in monitoring student learning outside of the classroom. Microcourses also offer additional learning resources beyond traditional textbooks. To illustrate this, the study focuses on the development and application of music appreciation in high school, examining it from the perspective of digital learning to explore the potential benefits of using micro-courses in music teaching.

Wei Xu (2012) discussed the benefits of incorporating network and MIDI technology into traditional music teaching methods. This integration can enhance the effectiveness of teaching and help bridge the gap between young and old teachers. As teaching methods continue to evolve, multimedia music education is becoming increasingly prevalent in primary and secondary schools. Comparing the digital and traditional approaches to music education holds significant theoretical importance for the long-term development of this field.

Jianhua Sun (2005) emphasized the importance of introducing modern media in vocal music teaching at the appropriate time. By incorporating digital processes, senior teachers can fully showcase the advantages of modern media in vocal music education.

According to Zhiguo You (2004), it is crucial for vocal music education to adapt quickly and incorporate computerized music production technology and multimedia systems in teaching to enhance the effectiveness of instruction. The study delves into the use of digital means in vocal music teaching, including the necessity of their integration, the introduction of digital vocal music teaching systems, the characteristics of digital vocal music teaching, and the significant benefits and prospects of using digital means in vocal music instruction. In addition to the above literature:

In a separate study, Shanshan Wang (2022) examined the online teaching mode of music education apps, online music curriculum and teaching, online course design, and the implementation and procedures of teaching.

Wei Gan and Zengzhao Chen (2015) provided a comprehensive overview of digital music classrooms teaching tools, such as the STARC teaching platform and the digital music classroom teaching tools developed by the National Digital Learning Engineering and Technology Research Center of Huazhong Normal University. The study also discussed the design and production of integrated software like Overture and Cubase.

Wei Gan and Zengzhao Chen (2015) proposed a research design for implementing digital music classroom teaching. This design includes analyzing teaching materials and content, studying teaching objectives and the learning environment, examining teaching resources and network resources, analyzing teaching strategies and structure, studying teaching and learning methods, and creating a diagram of the entire teaching process and structure.

On the other hand, Changqing Jiang (2015) explored different ways of combining computerized music systems and compositional techniques after studying relevant theories.

Yishan Zhao and Lulu Zhang (2015) provided a detailed introduction to multimedia computerassisted teaching, computer music systems, and related knowledge. They also demonstrated an example of multimedia-assisted teaching courseware.

4.4 Core themes of the research

All these articles highlight the significance of digital technology in music education. The topics covered include the use of multimedia, online teaching, a combination of online and offline teaching, and the integration of internet and music education. The authors discuss how to utilize the "Internet +" model, digital technology, and new media to encourage innovation and development in music education. The teaching methods discussed include employing multimedia in traditional sight-singing and eartraining instruction, transforming and implementing online sight-singing and ear-training lessons, and incorporating online and offline elements in sight-singing and ear-training instruction. Additionally, the application of the "Internet +" model is explored in piano improvisation and accordion lessons. Overall, literature suggests that at the age of information technology, the widespread use of digital tools and multimedia technology can offer music education more resources and tools, enhance teaching efficiency and quality, and contribute to the nurturing of musical talent. Furthermore, educators are encouraged to leverage digital resources, innovate teaching design, and explore new teaching methods that are suitable for music education.

Foreign literature offers a plethora of ideas and practical experience, serving as a valuable source of inspiration for research and practice in the realm of music education. One fundamental concept is that music education should prioritize the holistic development of students' emotions, cognition, and creativity. The emergence of new technologies, such as computer technology and music therapy, presents novel opportunities to achieve this objective.

4.5 Weak Research Themes

In general, the investigation of "music teaching models in colleges" within the context of digitization is a trending research topic in China. However, there is still a lack of in-depth exploration in this field. It is anticipated that future scholars will devote more attention to this area and produce increasingly valuable research findings.

Foreign literature has also highlighted several challenges and limitations in the field of music education. For instance, a study conducted by Abril and Gault (2012) revealed that many schools are grappling with a shortage of music educational resources. This indicates that while new technological tools offer new possibilities for music education, there is a need to strengthen the infrastructure and resources available for this purpose. Additionally, Collins et al. (2004) examined the theoretical and methodological issues in research design and emphasized the importance of collaboration between researchers and practitioners. This underscores the significance of integrating practice and theory in music education research and practice, and fostering mutual support and advancement between theory and practice.

In summary, researching music teaching methods in colleges is an imperative task. It is crucial to continuously assess whether the overall competence of students is being enhanced and to continuously adapt to and guide the advancements of the era. The emergence of new technological tools and approaches has opened up new opportunities for music education, but simultaneously, it is important to address and resolve any issues and shortcomings in music education. Only through the harmonious integration of theory and practice can we effectively achieve the goals of education. By providing students with increasingly superior educational resources and a conducive environment, we can facilitate their growth and development.

5. Research Findings

With the rapid progress of digital technology and the arrival of the digital age, the field of higher education has also experienced significant transformations and difficulties, including the evolution of music teaching methods in colleges. The conventional music teaching approach in colleges encounters new possibilities and challenges in the digitalization context. Digital technology offers ample educational resources and teaching aids for music education in colleges, but it also influences the music teaching methods employed by colleges. Hence, it is crucial to explore the music teaching methods used by colleges and universities in the digital era, as this holds significant practical and theoretical importance.

5.1 Practical significance

The investigation of music pedagogy in colleges within the context of digitalization holds significant practical importance.

5.1.1 Adapt to the needs of the times

The digital age has brought about new requirements for the music teaching methods used in colleges. The traditional methods of teaching are not well-suited to the needs of students learning music in this digital era. Therefore, it is necessary to reform and develop these methods to better adapt to the current needs and improve the effectiveness of music teaching.

5.1.2 Enhance teaching effect

Digital technology in music teaching can offer a wider range of resources and tools, which can enhance students' interest and engagement in the learning process. This, in turn, can improve the effectiveness of teaching. By incorporating digital tools, music teaching can become more dynamic, flexible, and personalized, thus encouraging students to be more proactive and enthusiastic in their learning.

5.1.3 Expanding the boundaries of disciplines

The advancement of digitalization has had a significant impact on the field of music education. The reform and development of music teaching methods in colleges and universities have not only expanded the boundaries of the discipline but also facilitated the integration of music education with other areas of study. This has led to the creation of a multidisciplinary and interdisciplinary music teaching model, which encourages the exchange of ideas and the growth of the music discipline.

5.1.4 Enhance students' comprehensive literacy

In the digital era, students need to acquire skills related to digitalization. This includes the ability to gather, process, and manage information effectively. By implementing reforms in music teaching methods within the context of digitalization, colleges and universities can help cultivate students' digital literacy. Additionally, these reforms can enhance students' abilities in digital technology, innovation, and overall comprehensive skills, leading to an increase in their overall competitiveness.

Therefore, investigating the music teaching methods utilized in colleges during the digitalization era holds significant value in advancing the modernization and informatization of music education. It also contributes to enhancing the efficiency of music instruction and other related aspects. These endeavors are of utmost practical importance.

5.2 Theoretical significance

The exploration of music teaching methodologies employed in colleges amidst the digitalization trend bears crucial theoretical implications for the progression of music education and teaching approaches.

5.2.1 Educational Theory Expansion

The adoption of digitalization in colleges has greatly impacted the music teaching model. This has led to the enrichment of the educational theory system and the expansion of research in teaching methods. By studying the music teaching model in colleges under the background of digitization, we can gain a fresh perspective and research on paradigm for the theoretical exploration of pedagogy, music pedagogy, and other related disciplines.

5.2.2 Teaching design innovation

The integration of digitalization in colleges has brought about new and innovative ideas for designing music teaching. Digital technology offers a wide range of tools that can enhance music education. As a result, it allows for more vibrant, flexible, and personalized teaching designs. Analyzing the reform and development of music teaching model in colleges under the influence of digitization helps us explore methods and strategies for designing music education based on digital technology.

This in turn promotes innovation in music teaching design.

5.2.3 Educational Practice Guidance

The digitization of colleges has greatly influenced the teaching of music. Understanding the reforms and developments in music teaching models in the digital era can provide valuable guidance for music educators and practitioners. This knowledge can help them navigate the challenges of teaching music in the digital age and enhance the effectiveness and quality of their educational practices.

5.2.4 Educational Policy Reference

Additionally, the digitization of colleges has implications for educational policies. Exploring the reforms and developments in music teaching models in colleges can offer a theoretical foundation and practical insights for policymakers in education. This knowledge can aid in the formulation of relevant education policies and support the ongoing reform and development of music teaching models in colleges.

In summary, the use of digital technology has a profound impact on the way music is taught in colleges. The traditional mode of music education needs to be reformed and updated to keep up with the current trends and the learning needs of students. This will help modernize and internationalize higher music education.

Conducting research in this area will help expand the field of higher music education and generate innovative ideas and teaching models. It will also provide theoretical and practical support for music education activities. Additionally, it will facilitate collaboration and exchange between Chinese and foreign universities in terms of music teaching methods. By embracing digitalization, teachers should rationally make use of digital technology, selecting appropriate music teaching methods and employing different modes based on teaching objectives, student needs, and the nature of the music content. This will promote the overall development and enhance the music literacy of students. Further research should be conducted to delve deeper into the music teaching methods in colleges, to foster a positive and innovative development of music education in higher education institutions.

参考文献

[1]常爱荣(2003)。e-Learning 在高中数学研究性学习中的应用研究(硕士论文)。西北师范大学,甘肃

。DOI:10.7666/d.D403016

- [2]陈林君(2015)。新型音乐教学实验室的组建和应用模式研究。艺术科技,2015(2),9-9,11。 DOI:10.3969/j.issn.1004-9436.2015.02.007
- [3]陈睿(2022)。"互联网+"背景下钢琴即兴演奏教改策略探究。中国电化教育,2022(8),2208-01。 DOI:10.3969/j.issn.1006-9860.2022.08.022
- [4]陈曦(2013)。**视唱多媒体教学课件的设计制作与应用初探(硕士论文**)。辽宁师范大学,辽宁。 DOI:10.7666/d.Y2376256
- [5]程晓光(2018)。新媒体时代大学生思想政治教育研究(博士论文)。哈尔滨师范大学,黑龙江。
- [6]董敏(2020)。信息化时代背景下高中音乐教育的实践与思考。年轻人,2020(7),179。 DOI:10.12214/j.1672-3872.2020.07.166
- [7]高聪毅(2016)。"微时代"数字媒体艺术教育创新(硕士论文)。上海师范大学,上海。 DOI:10.7666/d.D836231
- [8]高友平(2013)。数字化音乐资源情感检索技术研究(硕士论文)。华中师范大学,湖北。 DOI:10.7666/d.Y2347873
- [9]甘玮,陈增照(2015)。数字化音乐教学软件设计与制作。武汉:武汉出版社。
- [10]甘玮,陈增照(2015)。数字化音乐课堂教学设计案例集.1-3年级。武汉:武汉出版社。
- [11]甘玮,陈增照(2015)。数字化音乐课堂教学设计案例集.4-6年级。武汉:武汉出版社。
- [12] **葛中杰**(2020)。基于数字化音乐下高校视唱练耳教学研究。戏剧之家, 2020(6), 157。 DOI:10.3969/j.issn.1007-0125.2020.06.098
- [13]黄硕(2020)。高职院校音乐信息化翻转课堂教学平台应用研究。黄河之声,2020(20),104-105。 DOI:10.3969/j.issn.1810-2980.2020.20.052
- [14]皇甫华丽(2019)。数字技术在高师声乐教学中的应用研究。桂林师范高等专科学校学报, 33(4), 125-128。DOI:10.3969/j.issn.1001-7070.2019.04.026
- [15]侯晓康(2021)。基于智能教室的协作式学习模式的实践研究——以小学信息技术课为例(硕士论文)。 青岛大学,山东。
- [16]蒋长清(2015)。数字化音乐平台下作曲技术理论课程教学的"分解"与"融合"研究。成都:西南交通大学 出版社。
- [17]李莉,王英(2012)。新音乐教学论与音乐微格实训。北京:北京理工大学出版社。
- [18]刘思辰(2017)。微课在高中音乐鉴赏中的应用策略探究——以东莞市几所高中为例(硕士论文)。华中 师范大学,湖北。
- [19]刘彦平(2019)。数字化音乐教室构建与应用研究。中国教育技术装备,2019(9),17-18。 DOI:10.3969/j.issn.1671-489X.2019.09.017
- [20]马俊强(2017)。基于智慧校园的中职计算机"翻转课堂"教学模式的构建研究——以广东省某职校为例(硕士论文)。广西师范大学,广西。
- [21]马骊骊(2021)。"互联网+"背景下的高师手风琴多元化教学研究。艺术评鉴, 2021(21), 98-100。
- [22] **宋珍**欢(2018)。浅谈数字化背景下音乐教育形式。卷宗,8(35),200。DOI:10.3969/j.issn.1005-4669.2018.35.190

[23]芮雪(2018)。微课在中等职业院校钢琴课程中的应用研究(硕士论文)。燕山大学,河北。

[24]孙建华(2005)。新时期高师声乐教学的研究与探讨(硕士论文)。首都师范大学,北京。

[25]孙淼(2007)。数字化音乐在中国音乐治疗中重要地位的阐释(硕士论文)。东北师范大学,吉林。

[26]王琴(2016)。基于 WWT 平台的天文教学模式研究(硕士论文)。华中师范大学,湖北。

- [27]徐伟(2012)。数字化与传统音乐教育模式对比研究(硕士论文)。哈尔滨师范大学,黑龙江。 DOI:10.7666/d.D680125
- [28]姚琳(2021)。试析现代数字技术在小学音乐教育中的运用。电脑爱好者(校园版),2021(22),49-50。DOI:10.12277/j.issn.1674-702X.2021.22.025
- [29]尤志国(2004)。数字化手段在声乐教学中的运用(硕士论文)。河北大学,河北。 DOI:10.7666/d.y841049
- [30]于宏伟(2023)。"互联网+"背景下高校视唱练耳教学探究。长春师范大学学报,42(2),160-163。 DOI:10.3969/j.issn.1008-178X.2023.02.029
- [31]余琳娜,马丽(2019)。对比中外现代教育技术在音乐教学模式中的应用研究(硕士论文)。长春:吉林 大学出版社。
- [32]于晓晶(2020)。当代高校音乐教育与教学的实践模式研究。北京:中国纺织出版社。[33]张晶晶(2020)。高校通识音乐课程数字化教学模型探究。教育教学论坛, 2020(46), 227-229。
- [34]周雪松(2023)。基于新媒体视角推动高校音乐教学改革创新的研究。山西青年,2023(4),57-59。
- [35]Abril, C. R., & Gault, B. M. (2012). The state of music in secondary schools: The princi pal's perspective. *Journal of Research in Music Education, 60*(2), 172-191.https://doi.org/10.1177/0022429408317516
- [36]Bruce Joyce, Marsha, Emily Calhoun. (2002). 教学模式。北京:中国轻工业出版社。
- [37]Collins, A., Joseph, D., & Bielaczyc, K. (2004). Design research: Theoretical and methodological issues. Journal of the Learning Sciences, 13(1), 15-42.DOI:10.1207/s15327809jls1301_2
- [38]Hickey, D. T. (2012). Assessment in music education: Integrating curriculum, theory, a nd practice. Chicago.GIA Publications.
- [39]Hickey, M. (2003). Why and how to teach music composition: A new horizon for music education.Lanham. R&L Educationl.
- [40]Jackson N C.(2019). Managing for competency with innovation change in higher education: examining the pitfalls and pivots of digital transformation.Business horizons, 2019 (6),761-772.
- [41]Kafai, Y. B. (1995). Minds in play: Computer game design as a context for children's learning. Lawrence Erlbaum Associates, Inc. Mahwah. Lawrence Erlbaum Associates.DOI:10.4324/9780203052914
- [42]Kampylis, P., Punie, Y., & Devine, J. (2015). Promoting effective digital-age learning-A European framework for digitally-competent educational organisations. Joint Research Centre (S eville site), 20.
- [43]Kim Chang Heed.(2013). The Influence of Mobile Contents on the learner's learning satisf action in the Smart Learning Environment. Journal of the Korea Societ of Digital Industry and Information Management,9(4).
- [44]Nesbit, T., Dunlop, C., & Gibson, L. (2007). *Lifelong learning in institutions of higher ed ucation*. *Canadian Journal of University Continuing Education*, 33(1), 35–60.
- [45]Papert, S. (1980). **Mindstorms: Children, Computers, and Powerful Ideas**. New York. Basic Books.Basic Books.
- [46]Smidt, H. (2020). Boosting the digital transition through lifelong learning. Nordic initiativ es, 27.
- [47]Trilling, B., & Fadel, C. (2009).**21st century skills: learning for life in our times**. Manh attan. John Wiley And Sons Inc.
- [48]Voltz, D., Sims, M. J., & Nelson, B.(2010) .Connecting teachers, students and standard s: Strategies for Success and Diverse and Inclusive Classrooms. Alexandria. ASCD Publish er.
- [49]Webster, P. R. (2015). Computer-based technology and music teaching and learning.

(**The Child as Musician: A handbook of musical development (2nd edn)**). New York. Oxford University Press.